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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,948	06/10/2005	Henrik Bergfalk	P/2432-72	5508

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EXAMINER	
LIN, JERRY	

ART UNIT	PAPER NUMBER
1631	

MAIL DATE	DELIVERY MODE
12/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,948	BERGFALK ET AL.	
	Examiner	Art Unit	
	JERRY LIN	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/1/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of ADHD (claims 1-3 and 5-12) in the reply filed on August 28, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Status of the Claims

Claims 1-3 and 5-12 are under examination.

Claim 4 is withdrawn.

Claim Rejections - 35 USC § 112, 2nd Paragraph

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the device" in line 4. There is insufficient antecedent basis for this limitation in the claim. There is no mention of a device previously in the claim, and it unclear to what this term is referring.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3 and 5-12 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The instant claims are drawn to a method of detecting a psychological disorder. However, as the method does not recite a physical transformation of matter, the method must be tied to a machine to be patentable subject matter (For further explanation see, In Re Bilski (No. 2007-10030, decided 10/30/2008)). In the instant case, the claimed method steps are not tied to a machine, and thus are non-statutory.

The instant claims are drawn to a process involving the judicial exception of a computational algorithm. Claims drawn to a judicial exception is non-statutory unless the claims include a practical application of that judicial exception as evidenced by a physical transformation of matter, or if the claimed invention recites a useful, tangible and concrete final result. In the instant claims, there is no physical transformation by the claimed invention, thus the Examiner must determine if the instant claims produce a useful, tangible, and concrete final result. See MPEP 2106.

The instant claims do not produce a useful, concrete, and tangible final result. A useful, concrete, and tangible final result requirement requires that the claim must set forth a practical application of the mathematical algorithm to produce a real-world result. The instant claims have final step of feeding data to an artificial neural network. This

final step does not indicate that a result has necessarily been produced. Thus the instant claims do not require that a result must be produced. Since there is no final result in the claims, the instant claims do not include a useful, concrete, and tangible final result. Examples of amendments to overcome this rejection include amending the claims to identify/recite a concrete result and to recite that the result is outputted to a display or to a user or outputted in a user readable format. However, applicant is reminded that any amendment must be fully supported and enabled by the originally filed disclosure.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 5, 8, and 10- 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdashevsky et al. (US 6, 006,188) in view of Kithil (US 5,691,693) in view of Barnhill et al. (6,248,063).

The instant claims are drawn to a method of detecting a psychological disorder by recording the activity of the pattern of the person which includes collecting movement, storing the collected data, transferring the stored data to a computer, calculating a set of parameter data, and feeding the parameter data into an Artificial Neural Network.

Bogdashevsky et al. teach a memory for storing data (column 2, lines 62-67, figure 1), a processor for processing data (column 4, lines 17-21, figure 1), collecting data from a person (column 19, lines 32-35), and calculating one or several parameters of various feature of the person (column 4, lines 4-17).

However, Bogdashevsky et al. does not teaching feeding the parameter data into an Artificial Neural Network (ANN) or collecting movement data.

Kithil teache collecting movement data to determine the psychological state of a person (Abstract).

Barnhill et al. teach using an ANN on a processor (column 12, lines 52-62), feeding (or transferring data) parameters to an ANN that is trained to recognize various psychological syndromes (column 12, lines 23-36 and 52-62).

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the methods of Bogdashevsky et al., Kithil, and Barnhill et al. to gain the benefit of creating a computerized and automated system of diagnosing

psychological disorder. A neural network has the advantage of the ability to discern complex patterns and compute on different types of data. Furthermore, in order to collect the appropriate amount of data, one of ordinary skill in the art would be motivated to gather that data over the require duration of time, such as 8 or 24 hours. Thus, in order to compute the different and complex types of data described by Bogdashevsky et al. and Kithil, one of ordinary skill in the art would have been motivated to used their methods with the method of Barnhill et al.

6. Claims 2, 3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdashevsky et al., Kithil, and Barnhill et al. as applied to claims 1, 5, 8 and 10-12 above, and further in view of Spencer et al. (Archives of General Psychiatry (2001) Volume 58, pages 775-782).

The instant claims are drawn to a method of detecting a psychological disorder by recording the activity of the pattern of the person which includes collecting movement, storing the collected data, transferring the stored data to a computer, calculating a set of parameter data, and feeding the parameter data into an Artificial Neural Network. In particular the claims are drawn to where the disorder is ADHD.

Bogdashevsky et al., Kithil, and Barnhill et al. are applied as above. However they do not teach where the disorder is ADHD.

Spencer et al. teach that a psychological disorder is ADHD which may be affected by amphetamines (abstract).

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teaching of Spencer et al., Bogdashevsky et al., Kithil, and Barnhill et al. to be able to diagnose ADHD. Barnhill et al. teach a general method of using ANN to diagnose psychological disorders. However, they do not specifically teach ADHD. Thus, one of ordinary skill in the art seeking to diagnose ADHD would have been motivated to incorporate the teachings of Spencer et al.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdashevsky et al. (US 6, 006,188) in view of Kithil (US 5,691,693) in view of Barnhill et al. (6,248,063) as applied to claims 1, 5, 8 and 10-12 above, and further in view of Moore-Ede et al. (US 6,070,098).

The instant claims are drawn to a method of detecting a psychological disorder by recording the activity of the pattern of the person which includes collecting movement, storing the collected data, transferring the stored data to a computer, calculating a set of parameter data, and feeding the parameter data into an Artificial Neural Network. In particular the claims are drawn to using non-movement data.

Bogdashevsky et al., Kithil, and Barnhill et al. are applied as above. However they do not teach where processing non-movement data such as heart rate.

Moore-Ede et al. teach processing movement and non-movement data such as heart rate (column 7, lines 24-40).

It would have been obvious to incorporate the methods of Moore-Ede et al. with the methods of Bogdashevsky et al., Kithil, and Barnhill et al. to gain the benefit of

obtaining more data to create more precise parameters for determining a psychological disorder. Moore-Ede et al. teach that there are several other types of data that may be used to determine a psychological disorder. One of ordinary skill in the art seeking to train an ANN to diagnosis psychological disorders, would be motivated to incorporate these other types of data in order to create a more accurate ANN. Thus, one of ordinary skill in the art would have been motivated to combine Moore-Ede et al. with the methods of Bogdashevsky et al., Kithil, and Barnhill et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY LIN whose telephone number is (571)272-2561. The examiner can normally be reached on 7:00-5:30pm, M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry Lin/
Examiner, Art Unit 1631
12/7/08